

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Moshe Rock et al. Art Unit : 1771
Serial No. : 10/700,405 Examiner : Jennifer A. Steele
Filed : November 4, 2003
Title : COMPOSITE FABRIC WITH ENGINEERED PATTERN

DECLARATION OF MOSHE ROCK UNDER 37 C.F.R. § 1.132

I, Moshe Rock, of 600 Washington Street, Brookline, MA 02446, declare as follows:

1. I received a Master of Science degree with a major in Chemistry and Polymers from Hebrew University, Jerusalem in 1972.
2. I have been employed by the Polartec LLC since March 2007 as Senior Vice President of Research and Development. From 1981 to March 2007 I held various positions with Malden Mills Industries, Inc. including Director of Technology, Vice President of Research and Development, Senior Vice President of Research and Development. Prior to that I was employed with Argaman Ltd., where I held the position of Chief Technology Officer. I have 36 years of experience in design and manufacture of various types of fabrics and garments.
3. I am an inventor, jointly with Douglas Lumb, Charles Haryslak, and Gadalia Vainer, of the present application U.S. Serial No. 10/700,405.
4. I have reviewed the references relied upon by the examiner, in her office action dated April 19, 2007, specifically:

Gunzel (WO 01/12889)
Blauer (5,626,949)
Rock (2001/0046580)
Grunfeld (5,198,288)
Muramoto (5,171,633)

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

August 9, 2007
Date of Deposit

Diane M. Saturno
Signature

Diane M. Saturno
Typed or Printed Name of Person Signing Certificate

5. I am familiar with the present claims of the application, which are directed to, *inter alia*, a composite fabric article having an outer surface upon which fine, discrete dots of coating material are applied. Specifically, the outer surface has a non-continuous coating of comprising discrete coating segments of between about 0.5 ounces per square yard to about 6.0 ounces per square yard of coating material selected from a group consisting of acrylic latex, polyurethane and silicone applied by a single head rotary screen having from about 30 to about 195 holes per lineal inch.

6. I have reviewed the Examiner's comments in her office action of April 19, 2007, and wish to address the Examiner's statement beginning at page 4 of that office action:

"The patentability of a product does not depend on its method of production. If the product in [a] product-by-process claim is the same or an obvious variant from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. (citing *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)). The burden has been shifted to the Applicant to show unobvious differences between the claimed product and the prior art product. (citing *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983)). Gunzel teaches a discontinuous coating which meets the structural limitations as required by Applicant."

7. To the extent the Examiner may consider that these statements still apply to the present claims, I feel the examiner will have overlooked or not fully considered important aspects of the situation.

8. The present claims concern the realization and discovery that a coating material can be applied to a fabric surface in very fine, discrete segments such that the coating is without substantial effect on hand tactile and breathability of the fabric.

9. I have attached hereto color photographs of composite fabric articles. A first photograph shows a composite fabric article that includes a non-continuous coating in accordance with claim 1 (attached as Exhibit A). A second photograph shows a substantially identical composite fabric article that does not include the coating material of the claimed invention (attached as Exhibit B). Also attached is a physical sample of a composite fabric

article including a non-continuous coating as in claim 1 (attached as Exhibit C), and a physical sample of a composite fabric article that does not include the coating material of the claimed invention (attached as Exhibit D).

10. In our teaching, the application of the coating material on the fabric is in very fine, discrete coating segments, which are dispensed through a rotary screen having from about 30 to about 195 holes per lineal inch. These non-continuous fine, discrete coating segments will flow in between the fibers of the fabric to bond fiber to fiber thereby reducing fiber fraying. The fine, discrete coating segments will migrate quite evenly through the fibers/yarns in the textile fabric without generating a physical barrier on the fabric surface. As will be seen by comparison of the attached Exhibit A with Exhibit B and/or Exhibit C with Exhibit D, upon drying of the coating material, the fine, discrete coating segments shrink even further to have a little or no effect on the fabric texture and touch and without substantial effect on breathability even in the areas on the surface where the coating material was applied. Among the benefits that our claimed invention provides is that the printed fabric is substantially indistinguishable from the unprinted textile fabric.

11. Gunzel, WO 01/12889, describes a polymer treated fabric that includes a very light application (e.g., between about 5 and 40 g/m²), applied to the fabric surface by applying a non-woven light weight web or by melt blowing or spraying a polymeric material directly onto the fabric to form a web. According to Gunzel, the web on the fabric is caused to melt so that the filaments of the web lose their identity. As shown and described by Gunzel, the polymeric material forms a thin layer on the uppermost portion of the yarns.

12. In my opinion, although Gunzel claims to provide a fabric that possesses significantly improved abrasion resistance with minimal weight add on, so that breathability and hand are not significantly impeded, contrary to our claimed invention, the processes described by Gunzel provide a coating that appears concentrated on the uppermost exposed surface of the fabric yarns. As shown, for example, in figures 1-7, the coating processes described by Gunzel produce a 3-dimensional deposit of the polymeric material at the surface of the fabric that will

generate a physical barrier to protect the underlying fabric from abrasion. From the figures (e.g., FIG. 1) it is clear that Gunzel has random regions of concentrated coating that occludes the interstices between underlying yarns at the fabric surface which will have an adverse effect on breathability and which will effect the tactile feel of the coated surface of the fabric in the areas on the surface of the fabric that carry the polymeric coating.

13. Blauer, U.S. Patent 5,626,949, describes a fabric having a printed stratum of a relatively high-tensile-strength, such as an acrylic urethane, that is applied to a face of the fabric with a rotary screen printing head. According to Blauer, the preferred coating weight add-on is in the range of 0.3 to 0.5 ounces per square yard. The Examiner apparently references Blauer for its description of a printed stratum having unconnected (and repeating) patterns such as honeycombs, grids, and discrete dots. However, Blauer still does not describe the very fine, discrete coating segments (i.e., "applied by a single head rotary screen having from about 30 to about 195 holes per lineal inch") of our claimed invention. Rather, Blauer shows and describes a urethane stratum characterized by solid portions that covers 10 to 90% of the fabric, which, like the coating of Gunzel, provides a 3-dimensional physical barrier at the coated surface (see, e.g., FIG. 2 of Blauer).

14. I have reviewed the other references cited in the record and find that none concerns the application very fine, discrete segments of a coating material to a fabric surface.

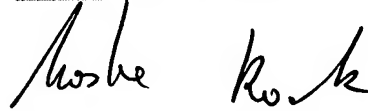
15. In summary, from the references, it seems the most that can be said is that fabrics having discontinuous patterns of coating material forming 3-dimensional physical barriers on a coated surface of the fabric (e.g., for increased resistance to abrasion) were in the prior art (referencing, e.g., Gunzel and/or Blauer), but, in my opinion, as a person of skill in this art, the practicality of applying non-continuous coatings in fine, discrete segments (i.e., by a single head rotary screen having from about 30 to about 195 holes per lineal inch) such that the coating migrates through the fibers/yarns in the textile fabric and deposits without generating a 3-dimensional physical barrier on the fabric surface (i.e., such that the non-continuous coating is

without substantial effect on hand tactile and breathability of the fabric) had not been recognized by people directly active in the field or any one else.

16. None of the other references mentioned above has a teaching that alters this view of the subject of claims 1-5, 7-9, 11-15, 17-20, 26-31, 33, 35, 36, 38 and 62.

I declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true and, further, that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of this application or any patents issuing therefrom.

Signed at Brookline, Massachusetts this 6th day of August, 2007.

A handwritten signature in cursive script, appearing to read "Moshe Rock", written over a horizontal line.

Moshe Rock